BIOMETRIKA

VOLUME 65

1978

Editor
D. R. COX

Business Manager
P. R. FREEMAN

Associate Editors
P. M. E. Altham
A. C. Atkinson
R. M. Cormack
M. J. R. Healy
D. V. Hinkley
J. F. C. Kingman
S. D. Silvey
M. Westcott

PUBLISHED BY
BIOMETRIKA TRUST, UNIVERSITY COLLEGE LONDON

© 1978 Biometrika Trust ISSN 0006–3444

Printed in Great Britain by John Wright & Sons Ltd, The Stonebridge Press, Bristol BS4 5NU

Contents of Volume 65

PAGE

AKAIKE, H. A new look at the Bayes procedure 53
ALTAVELA, M. M. (*See* WOOD, C. L.)
ASAD, H. (*See* SAMIUDDIN, M.)
ATKINSON, A. C. Posterior probabilities for choosing a regression model . . . 39
BAKSALARY, J. K., CORSTEN, L. C. A. and KALA, R. Reconciliation of two different views on estimation of growth curve parameters 662
BANCROFT, G. A. and DUNSMORE, I. R. Predictive sequential life testing . . 609
BASAWA, I. V. and BROCKWELL, P. J. Inference for gamma and stable processes . 129
BHAPKAR, V. P. (*See* VENABLE, T. C.)
BHOJ, D. S. Testing equality of means of correlated variates with missing observations on both responses 225
BINDER, D. A. Bayesian cluster analysis 31
BINGHAM, C. and MARDIA, K. V. A small circle distribution on the sphere . . 379
BISHOP, T. A., DUDEWICZ, E. J., JURITZ, J. M. and STEPHENS, M. A. Percentage points of a quadratic form in Student t variates 435
BLOM, G. A property of minimum variance estimates 642
BLUNCK, M. and MOMMSEN, T. P. Systematic errors in fitting linear transformations of the Michaelis–Menten equation 363
BOX, G. E. P. (*See* LJUNG, G. M.)
BOYER, J. E. (*See* SCHUCANY, W. R.)
BRESLOW, N. E. (*See* PRENTICE, R. L.)
BRETH, M., MARITZ, J. S. and WILLIAMS, E. J. On distribution-free lower confidence limits for the mean of a nonnegative random variable 529
BROCKWELL, P. J. (*See* BASAWA, I. V.)
BROWN, D. and ROTHERY, P. Randomness and local regularity of points in a plane 115
BROWN, G. H. Generalized least squares applied to the linear ultrastructural model 441
BRUNK, H. D. Univariate density estimation by orthogonal series 521
BRYANT, P. and WILLIAMSON, J. A. Asymptotic behaviour of classification maximum likelihood estimates 273
BURNHAM, K. P. and OVERTON, W. S. Estimation of the size of a closed population when capture probabilities vary among animals 625
BURR, A. H. (*See* EAVES, D.)
CAMERON, M. A. The prediction variance and related statistics for stationary time series 283
CASSING, S. (*See* DENT, W. T.)
CLAYTON, D. G. A model for association in bivariate life tables and its application in epidemiological studies of familial tendency in chronic disease incidence . 141
COBB, G. W. The problem of the Nile: Conditional solution to a changepoint problem 243
COPAS, J. B. and DICKEY, J. M. A remark on likelihood, Bayes and affinity for a preconceived value 648
CORSTEN, L. C. A. (*See* BAKSALARY, J. K.) . . . . . .
COX, D. R. and SMALL, N. J. H. Testing multivariate normality 263
CRESSIE, N. Power results for tests based on high-order gaps 214
DALAL, S. R. Simultaneous confidence procedures for univariate and multivariate Behrens–Fisher type problems 221

DENT, W. T. and CASSING, S. On modified maximum likelihood estimators of the autocorrelation coefficient in linear models 211
DICKEY, J. M. (*See* COPAS, J. B.)
DUDEWICZ, E. J. (*See* BISHOP, T. A.)
DUNSMORE, I. R. (*See* BANCROFT, G. A.)
EAVES, D. and BURR, A. H. The threshold hypothesis for flash perception . . 503
EFRON, B. and HINKLEY, D. V. Assessing the accuracy of the maximum likelihood estimator: Observed versus expected Fisher information (with comments by O. Barndorff–Nielsen, A. T. James, G. K. Robinson and D. A. Sprott) . . 457
FAREWELL, V. T. Jackknife estimation with structured data 444
GAIL, M. and WARE, J. On the robustness to measurement error of tests for exponentiality 305
GANESALINGAM, S. and MCLACHLAN, G. J. The efficiency of a linear discriminant function based on unclassified initial samples 658
GEORGE, E. O. (*See* MUDHOLKAR, G. S.)
GLAZEBROOK, K. D. On the optimal allocation of two or more treatments in a controlled clinical trial 335
GODOLPHIN, E. J. Modified maximum likelihood estimation of Gaussian moving averages using a pseudoquadratic convergence criterion 203
HALL, W. B. (*See* JARRETT, R. G.)
HAMILTON, D. C. and WATTS, D. G. Interpreting partial autocorrelation functions of seasonal time series models 135
HANIF, M. (*See* SAMIUDDIN, M.)
HEALY, M. J. R. A mean difference estimator of standard deviation in symmetrically censored normal samples 643
HEILBRON, D. C. Comparison of estimators of the variance of systematic sampling . 429
HETTMANSPERGER, T. P. (*See* MCKEAN, J. W.)
HILL, P. D. H. A note on the equivalence of *D*-optimal design measures for three rival linear models 666
HILLMER, S. C. (*See* TIAO, G. C.)
HINKLEY, D. V. Improving the jackknife with special reference to correlation estimation 13
HINKLEY, D. V. Likelihood inference about location and scale parameters . . 253
HINKLEY, D. V. (*See* EFRON, B.)
HIRJI, T. and SHAHANI, A. K. Testing of hypotheses with trinomials generated by gauges 228
HIROTSU, C. Ordered alternatives for interaction effects 561
HOLLANDER, M. and SETHURAMAN, J. Testing for agreement between two groups of judges (with comments by W. R. Schucany) 403
HOLT, J. D. Competing risk analyses with special reference to matched pair experments 159
JARRETT, R. G. and HALL, W. B. Generalized cyclic incomplete block designs . 397
JONES, E. R. and MITCHELL, T. J. Design criteria for detecting model inadequacy . 541
JURITZ, J. M. (*See* BISHOP, T. A.)
KALA, R. (*See* BAKSALARY, J. K.)
KEDEM, B. Sufficiency and the number of level crossings by a stationary process . 207
KEDEM, G. (*See* PHADKE, M. S.)

KHATRI, C. G. A remark on the necessary and sufficient conditions for a quadratic form to be distributed as chi-squared 239
KONISHI, S. An approximation to the distribution of the sample correlation coefficient 654
KOZIOL, J. A. and PETKAU, A. J. Sequential testing of the equality of two survival distributions using the modified Savage statistic 615
LAGAKOS, S. W., SOMMER, C. J. and ZELEN, M. Semi-Markov models for partially censored data 311
LAGAKOS, S. W. and WILLIAMS, J. S. Models for censored survival analysis: A cone class of variable-sum models 181
LAIRD, N. M. Empirical Bayes methods for two-way contingency tables . . 581
LIDDELL, I. G. and ORD, J. K. Linear-circular correlation coefficients: Some further results 448
LJUNG, G. M. and BOX, G. E. P. On a measure of lack of fit in time series models . 297
MARDIA, K. V. and PURI, M. L. A spherical correlation coefficient robust against scale 391
MARDIA, K. V. (*See* BINGHAM, C.)
MARITZ, J. S. (*See* BRETH, M.)
MCCULLAGH, P. A class of parametric models for the analysis of square contingency tables with ordered categories 413
MCKEAN, J. W. and HETTMANSPERGER, T. P. A robust analysis of the general linear model based on one step R-estimates 571
MCKINLAY, S. M. The effect of nonzero second-order interaction on combined estimators of the odds ratio 191
MCLACHLAN, G. J. (*See* GANESALINGAM, S.)
MEEKER, W. Q. Sequential tests of independence for 2×2 contingency tables . . 85
MITCHELL, T. J. (*See* JONES, E. R.)
MOMMSEN, T. P. (*See* BLUNK, M.)
MORTON, R. Regression analysis of life tables and related nonparametric tests . 329
MUDHOLKAR, G. S. and GEORGE, E. O. A remark on the shape of the logistic distribution 667
ORBAN, J. and WOLFE, D. A. Optimality criteria for the selection of a partially sequential indicator set 357
ORD, J. K. (*See* LIDDELL, I. G.)
OVERTON, W. S. (*See* BURNHAM, K. P.)
PARR, W. C. (*See* SCHUCANY, W. R.)
PATEFIELD, W. M. The unreplicated ultrastructural relation: Large sample properties 535
PAUL, S. R. and PLACKETT, R. L. Inference sensitivity for Poisson mixtures . . 591
PEERS, H. W. Second-order sufficiency and statistical invariants 489
PEREIRA, B. DE B. Tests and efficiencies of separate regression models 319
PETKAU, A. J. (*See* KOZIOL, J. A.)
PETTITT, A. N. Generalized Cramér–von Mises statistics for the gamma distribution . 232
PHADKE, M. S. and KEDEM, G. Computation of the exact likelihood function of multivariate moving average models 511
PHILLIPS, P. C. B. Edgeworth and saddlepoint approximations in the first-order noncircular autoregression 91
PLACKETT, R. L. (*See* PAUL, S. R.)
PRENTICE, R. L. Linear rank tests with right censored data 167

PRENTICE, R. L. and BRESLOW, N. E. Retrospective studies and failure time models 153
PURI, M. L. (*See* MARDIA, K. V.)
RAO, C. R. and SHINOZAKI, N. Precision of individual estimators in simultaneous estimation of parameters 23
RIPLEY, B. D. and SILVERMAN, B. W. Quick tests for spatial interaction . . 641
ROBINSON, G. K. On the necessity of Bayesian inference and the construction of measures of nearness to Bayesian form 49
ROBINSON, J. A. Sequential choice of an optimal dose: A prediction intervals approach 75
ROTHERY, P. (*See* BROWN, D.)
ROUSSEAU, P. and SANKOFF, D. Singularities in the analysis of binomial data . 603
SAMIUDDIN, M., HANIF, M. and ASAD, H. Some comparisons of the Bartlett and cube root tests of homogeneity of variance 218
SANKOFF, D. (*See* ROUSSEAU, P.)
SAW, J. G. A family of distributions on the m-sphere and some hypothesis tests . 69
SCHOU, G. Estimation of the concentration parameter in von Mises–Fisher distributions 369
SCHUCANY, W. R., PARR, W. C. and BOYER, J. E. Correlation structure in Farlie–Gumbel–Morgenstern distributions 650
SEHEULT, A. On a problem in forensic science 646
SETHURAMAN, J. (*See* HOLLANDER, M.)
SHAHANI, A. K. (*See* HIRJI, T.)
SHINOZAKI, N. (*See* RAO, C. R.)
SHIRAHATA, S. An approach to a one-sided test in the bivariate normal distribution 61
SIEGMUND, D. Estimation following sequential tests 341
SILVERMAN, B. W. Choosing the window width when estimating a density . . 1
SILVERMAN, B. W. (*See* RIPLEY, B. D.)
SILVEY, S. D. Optimal design measures with singular information matrices . . 553
SINGH, P. The selection of samples of two units with inclusion probabilities proportional to size 450
SINHA, K. A resolvable triangular partially balanced incomplete block design . . 665
SMALL, N. J. H. Plotting squared radii 657
SMALL, N. J. H. (*See* COX, D. R.)
SOMMER, C. J. (*See* LAGAKOS, S. W.)
STEPHENS, M. A. (*See* BISHOP, T. A.)
SWEETING, T. J. On efficient tests for branching processes 123
TAMHANE, A. C. Inference based on regression estimator in double sampling . . 419
TIAO, G. C. and HILLMER, S. C. Some consideration of decomposition of a time series 497
TJØSTHEIM, D. A measure of association for spatial variables 109
TUAN, P.-D. On the fitting of multivariate processes of the autoregressive-moving average type 99
VENABLE, T. C. and BHAPKAR, V. P. Gart's test of interaction in a $2 \times 2 \times 2$ contingency table for small samples 669
WARE, J. (*See* GAIL, M.)
WATTS, D. G. (*See* HAMILTON, D. C.)
WEI, L. J. On the random allocation design for the control of selection bias in sequential experiments 79

WHITEHEAD, J. Large sample sequential methods with application to the analysis of 2×2 contingency tables 351
WILLIAMS, E. J. (*See* BRETH, M.)
WILLIAMS, J. S. (*See* LAGAKOS, S. W.)
WILLIAMSON, J. A. (*See* BRYANT, P.)
WOLFE, D. A. (*See* ORBAN, J.)
WOOD, C. L. A large-sample Kolmogorov–Smirnov test for normality of experimental error in a randomized block design 673
WOOD, C. L. and ALTAVELA, M. M. Large-sample results for Kolmogorov–Smirnov statistics for discrete distributions 235
YANG, M. C. K. Determination of sample size for testing the relation between an incident and a set of random variables in a sample survey 635
ZELEN, M. (*See* LAGAKOS, S. W.)